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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-CE-37-AD; Amendment 39-13494; AD 2004-05-02]

RIN 2120-AA64

Airworthiness Directives; AeroSpace Technologies of Australia Pty Ltd. Models N22B, N22S, and N24A Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA adopts a new airworthiness directive (AD) for all AeroSpace Technologies of Australia Pty Ltd. (ASTA) Models N22B, N22S, and N24A airplanes. This AD requires you to repetitively inspect wing fittings for fatigue defects, replace or correct defective wing fittings, and replace the stub wing front spar assembly and wing fitting when fatigue life limits are reached. This AD is the result of mandatory continuing airworthiness information (MCAI) issued by the airworthiness authority for Australia. We are issuing this AD to detect and correct defects in the wing strut upper end fittings, wing strut lower end fittings, stub wing strut pick up fittings, and the stub wing front spar assembly. These defects could result in failure of the fittings or spar assembly and lead to reduced structural capability or reduced controllability of the airplane.

DATES: This AD becomes effective on April 20, 2004.

As of April 20, 2004, the Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulation.

ADDRESSES: You may get the service information identified in this AD from Nomad Operations, Aerospace Support Division, Boeing Australia, PO Box 767, Brisbane, QLD 4000 Australia; telephone 61 7 3306 3366; facsimile 61 7 3306 3111.

You may view the AD docket at FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-CE-37-AD, 901 Locust, Room 506, Kansas City, Missouri 64106. Office hours are 8 a.m. to 4 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Ron Atmur, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (562) 627-5224; facsimile (562) 627-5210.

SUPPLEMENTARY INFORMATION:

Discussion

What events have caused this AD? The Civil Aviation Safety Authority (CASA), which is the airworthiness authority for Australia, recently notified FAA that an unsafe condition may exist on all ASTA Models N22B, N22S, and N24A airplanes. The CASA reports that fatigue tests on the wing strut upper end fitting have shown premature failures and rapid crack growth. Also, fatigue tests on the wing strut lower end fittings, stub wing strut pick up fitting, and stub wing front spar assembly have identified appropriate fatigue lives for the respective parts.

What is the potential impact if FAA took no action? Fatigue loading could result in failure of the wing strut upper end fitting, wing strut lower end fittings, stub wing strut pick up fitting, or stub wing front spar assembly. This failure could lead to reduced structural capability or reduced controllability of the airplane.

Has FAA taken any action to this point? We issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to all ASTA Models N22B, N22S, and N24A airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on October 24, 2003 (68 FR 60887). The NPRM proposed to require you to repetitively inspect wing fittings for fatigue defects, replace or correct defective wing fittings, and replace the stub wing front spar assembly and wing fitting when fatigue life limits are reached.

Comments

Was the public invited to comment? We provided the public the opportunity to participate in the development of this AD. We received no comments on the proposal or on the determination of the cost to the public.

Conclusion

What is FAA's final determination on this issue? We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial corrections. We have determined that these minor corrections:

–Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
–Do not add any additional burden upon the public than was already proposed in the NPRM.

Changes to 14 CFR Part 39–Effect on the AD

How does the revision to 14 CFR part 39 affect this AD? On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

Costs of Compliance

How many airplanes does this AD impact? We estimate that this AD affects 15 airplanes in the U.S. registry.

What is the cost impact of this AD on owners/operators of the affected airplanes?

We estimate the following costs to accomplish the inspection of the wing strut upper end fitting bolt holes:

Labor cost	Parts cost	Total cost per airplane	Total cost on U.S. operators
12 workhours x $65 per hour = $780.	Not applicable	$780	15 x $780 = $11,700.

We estimate the following costs to accomplish the inspection of the stub wing strut pick up fittings:

Labor cost	Parts cost	Total cost per airplane	Total cost on U.S. operators
16 workhours x $65 per hour = $1,040.	Not applicable	$1,040	15 x $1,040 = $15,600.

We estimate the following costs to accomplish any necessary replacements of the wing strut upper end fittings that will be required based on the results of the inspection or on reaching the fatigue life limit. We have no way of determining the number of airplanes that may need the replacement:

Labor cost	Parts cost	Total cost per airplane
10 workhours x $65 per hour = $650	$679	$650 + $679 = $1,329.

We estimate the following costs to accomplish any necessary replacements of the wing strut lower end fittings that will required based on reaching the fatigue life limit. We have no way of determining the number of airplanes that may need the replacement:

Labor cost	Parts cost	Total cost per airplane
12 workhours x $65 per hour = $780	$193	$780 + $193 = $973.

We estimate the following costs to accomplish any necessary replacements of the stub wing strut pick up fittings that will be required based on the results of the inspection or on reaching the fatigue life limit. We have no way of determining the number of airplanes that may need the replacement:

Labor cost	Parts cost	Total cost per airplane
80 workhours x $65 per hour = $5,200	$985	$5,200 + $985 = $6,185.

We estimate the following costs to accomplish any necessary replacements of the stub wing front spar assembly that will be required based on reaching the fatigue life limit. We have no way of determining the number of airplanes that may need the replacement:

Labor cost	Parts cost	Total cost per airplane
370 workhours x $65 per hour = $24,050	$4,820	$24,050 + $4,820 = $28,870.

Regulatory Findings

Will this AD impact various entities? We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

Will this AD involve a significant rule or regulatory action? For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and

3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2003-CE-37-AD" in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. FAA amends § 39.13 by adding a new AD to read as follows:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation
Administration

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-05-02 Aerospace Technologies of Australia Pty Ltd.: Amendment 39-13494; Docket No. 2003-CE-37-AD.

When Does This AD Become Effective?

(a) This AD becomes effective on April 20, 2004.

What Other ADs Are Affected By This Action?

(b) None.

What Airplanes Are Affected by This AD?

(c) This AD affects Models N22B, N22S, and N24A airplanes, all serial numbers, that are certificated in any category.

What Is the Unsafe Condition Presented in This AD?

(d) This AD is the result of mandatory continuing airworthiness information (MCAI) issued by the airworthiness authority for Australia. The actions specified in this AD are intended to detect and correct defects in the wing strut upper end fittings, wing strut lower end fittings, stub wing strut pick up fittings, and the stub wing front spar assembly. These defects could result in failure of the fittings or spar assembly and lead to reduced structural capability or reduced controllability of the airplane.

What Must I Do To Address This Problem?

(e) To address this problem, you must do the following:

Actions	Compliance	Procedures
(1) Inspect the wing strut upper end fitting bolt holes: (i) visually inspect for scoring, ovality, fretting, corrosion, and dimensions; and (ii) inspect, using eddy current inspection, for cracks	For Models N22S and N24A: Initially inspect before 3,600 hours time-in-service (TIS) on the wing strut upper end fitting or within the next 100 hours TIS after April 20, 2004 (the effective date of this AD), whichever occurs later. Repetitively inspect thereafter every 900 hours TIS until 14,400 hours TIS are accumulated on the wing strut upper end fitting. For Model N22B: Initially inspect before 5,400 hours TIS on the wing strut upper end fitting or within the next 100 hours TIS after April 20, 2004 (the effective date of this AD), whichever occurs later. Repetitively inspect thereafter at every 1,200 hours TIS until 14,400 hours TIS are accumulated on the wing strut upper end fitting.	Follow the Accomplishment Instructions in Boeing Australia Aerospace Technologies of Australia Nomad Alert Service Bulletin No. ANMD–57–12, Revision 2, dated May 25, 1999.
(2) Complete corrective actions for defects of the wing strut upper end fittings: (i) If a crack is found or the hole in the strut upper end fitting is damaged and will not clean up, replace the wing strut upper end fittings. (ii) If the hole in the strut is oval or damaged, and the oversize line reamer will not repair it: (A) get a repair scheme from the manufacturer; and (B) follow this repair scheme. (iii) If scoring, fretting, or corrosion is found, or all dimensions are within limits, line ream the hole and replace the bolt	Before further flight after the inspection required in paragraph (e)(1) of this AD, unless already done.	Follow the Accomplishment Instructions in Boeing Australia Aerospace Technologies of Australia Nomad Alert Service Bulletin No. ANMD–57–12, Revision 2, dated May 25, 1999; and any repair scheme obtained from Nomad Operations, Aerospace Support Division, Boeing Australia, PO Box 767, Brisbane, QLD 4000 Australia; telephone 61 7 3306 3366; facsimile 61 7 3306 3111. Obtain approval of this repair scheme through the FAA at the address specified in paragraph (f) of this AD.

(3) Replace the wing strut upper end fittings.	Before further flight when cracks are found by the inspection required in paragraph (e)(1); and upon the accumulation of 14,400 hours TIS on the fitting or within the next 100 hours TIS after April 20, 2004 (the effective date of this AD), whichever occurs later. For Models N22S and N24A: start repetitive inspections of paragraph (e)(1) of this AD when 7,200 hours TIS are accumulated on the wing strut upper end fitting. For Models N22B: start repetitive inspections of paragraph (e)(1) of this AD when 10,800 hours TIS are accumulated on the wing strut upper end fitting.	Follow the Accomplishment Instructions in accumulation Boeing Australia Aerospace Technologies of Australia Nomad Alert Service Bulletin No. ANMD–57–12, Revision 2, dated May 25, 1999.
(4) Replace the wing strut lower end fittings: (i) get a repair scheme from the manufacturer; and (ii) follow this repair scheme	Upon the accumulation of 14,000 hours TIS on the fitting or within the next 100 hours TIS after April 20, 2004 (the effective date of this AD), whichever occurs later.	Follow a repair scheme from Nomad Operations, Aerospace Support Division, Boeing Australia, PO Box 767, Brisbane, QLD 4000 Australia; telephone 61 7 3306 3366; facsimile 61 7 3306 3111. Get approval of this repair scheme through the FAA at the address specified in paragraph (f) of this AD.
(5) Inspect the stub wing strut pick up fittings for cracks	Initially inspect upon the accumulation of 5,400 hours TIS on the fitting or within the next 300 hours TIS on the fitting after April 20, 2004 (the effective date of this AD), whichever occurs later. Repetitively inspect thereafter at every 1,800 hours TIS until 18,800 hours TIS are accumulated on the stub wing strut pick up fitting.	Follow the Accomplishment Instructions in Aerospace Technologies of Australia Nomad Service Bulletin No. NMD–53–18, dated February 8, 1996; or Boeing Australia Aerospace Technologies of Australia Nomad Service Bulletin No. NMD–53–18, Revision 1, dated September 3, 2002; and the applicable airplane maintenance manual.
(6) Replace the stub wing strut pick up fittings	Before further flight when cracks are found after the inspection required in paragraph (e)(5) of this AD, unless already done; and upon the accumulation of 18,800 hours TIS or 300 hours TIS after April 20, 2004 (the effective date of this AD), whichever occurs later.	Follow the Accomplishment Instructions in Aerospace Technologies of Australia Nomad Service Bulletin No. NMD–53–18, dated February 8, 1996; or Boeing Australia Aerospace Technologies of Australia Nomad Service Bulletin No. NMD–53–18, Revision 1, dated September 3, 2002; and the applicable airplane maintenance manual.

(7) Replace the stub wing front spar assembly: (i) get a repair scheme from the manufacturer; and (ii) follow this repair scheme	Upon the accumulation of 25,000 hours TIS on the wing strut upper end fitting, wing strut lower end fitting, or stub wing strut pick up fitting, or within the next 100 hours TIS after April 20, 2004 (the effective date of his AD), whichever occurs later.	Follow a repair scheme from Nomad Operations, Aerospace Support Division, Boeing Australia, PO Box 767, Brisbane, QLD 4000 Australia; telephone 61 7 3306 3366; facsimile 61 7 3306 3111. Get approval of this repair scheme through the FAA at the address specified in paragraph (f) of this AD.

May I Request an Alternative Method of Compliance?

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Los Angeles Aircraft Certification Office (ACO), FAA. For information on any already approved alternative methods of compliance, contact Ron Atmur, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (562) 627-5224; facsimile (562) 627-5210.

Does This AD Incorporate Any Material by Reference?

(g) You must do the actions required by this AD following the instructions in Boeing Australia Aerospace Technologies of Australia Nomad Alert Service Bulletin No. ANMD-57-12, Revision 2, dated May 25, 1999; Aerospace Technologies of Australia Nomad Service Bulletin No. NMD-53-18, dated February 8, 1996; and Boeing Australia Aerospace Technologies of Australia Nomad Service Bulletin No. NMD-53-18, Revision 1, dated September 3, 2002. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may get a copy from Nomad Operations, Aerospace Support Division, Boeing Australia, P.O. Box 767, Brisbane, QLD 4000 Australia; telephone 61 7 3306 3366; facsimile 61 7 3306 3111. You may review copies at FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Is There Other Information That Relates to This Subject?

(h) These Australian ADs also address the subject of this AD: AD Number AD/GAF-N22/2, Amendment 3, dated January 28, 2003, and AD Number AD/GAF-N22/70, Amendment 2, dated January 28, 2003.

Issued in Kansas City, Missouri, on February 20, 2004.
Dorenda D. Baker,
Manager, Small Airplane Directorate, Aircraft Certification Service.
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